

Serial No. 10/009,195
December 9, 2005
Page 2

Listing of Claims:

Claims 1-76 (cancelled).

77. (Currently amended) A supercharged, power-producing gas turbine system, said system comprising:

a gas turbine subsystem and an electrical generator, said gas turbine subsystem comprising a compressor, a burner, and a gas turbine, wherein a gas turbine subsystem input airstream is compressed by said compressor, heated by said burner, and expanded through said turbine to cause said turbine to rotate, whereby said turbine drives said generator to generate electrical power;

a variable supercharging subsystem comprising at least one supercharging fan which variably increases the pressure of said gas turbine subsystem input airstream as ambient temperature increases over an operating temperature range of said gas turbine system, up to a predefined maximum supercharging pressure above atmospheric pressure, whereby power output of said turbine and hence electrical output of said electrical generator may be increased; and

at least one fogger located upstream of said gas turbine subsystem input airstream, for providing a source of mist to humidify and cool said input airstream before it is inputted to said compressor.

78. (Original) The supercharged, power-producing gas turbine system of claim 77, wherein said at least one fogger is located upstream of said fan.

79. (Original) The supercharged, power-producing gas turbine system of claim 77, wherein said at least one fogger is located between said fan and said compressor.

80. (Original) The supercharged, power-producing gas turbine system of claim 77, further comprising a second fogger, wherein said at least one fogger is located upstream of said fan, and said second fogger is located between said fan and said compressor.

Serial No. 10/009,195
December 9, 2005
Page 3

81. (Original) The supercharged, power-producing gas turbine system of claim 77, further comprising:

a system controller; wherein said system controller monitors at least one system parameter and controls operation of said at least one fogger such that as ambient temperature decreases, turbine power output, which otherwise would increase with decreasing ambient temperature, does not exceed maximum supercharged summer-peaking power output.

82. (Previously presented) The supercharged, power-producing gas turbine system of claim 77, wherein said at least one supercharging fan comprises an axial fan.

83. (Previously presented) The supercharged, power-producing gas turbine system of claim 82, wherein said axial fan further comprises variable pitch blades.

84. (Previously presented) The supercharged, power-producing gas turbine system of claim 77, wherein said supercharging subsystem further comprises inlet vanes to control supercharging,

85. (Previously presented) The supercharged, power-producing gas turbine system of claim 77, wherein said supercharging subsystem further comprises variable speed drives to control supercharging.

86. (Currently amended) A supercharged, power-producing gas turbine system, said system comprising:

a gas turbine subsystem and an electrical generator, said gas turbine subsystem comprising a compressor, a burner, and a gas turbine, wherein a gas turbine subsystem input airstream is compressed by said compressor, heated by said burner, and expanded through said turbine to cause said turbine to rotate, whereby said turbine drives said generator to generate electrical power;

Serial No. 10/009,195
December 9, 2005
Page 4

a variable supercharging subsystem comprising at least one supercharging fan which variably increases the pressure of said gas turbine subsystem input airstream above atmospheric pressure over an operating temperature range of said gas turbine system, whereby power output of said turbine and hence electrical output of said electrical generator may be increased so that the turbine system does not exceed a specified limit; and

at least one fogger located upstream of said gas turbine subsystem input airstream, for providing a source of mist to humidify and cool said input airstream before it is inputted to said compressor.

87. (Previously presented) The supercharged, power-producing gas turbine system of claim 86, wherein said at least one fogger is located upstream of said fan.

88. (Previously presented) The supercharged, power-producing gas turbine system of claim 86, wherein said at least one fogger is located between said fan and said compressor.

89. (Previously presented) The supercharged, power-producing gas turbine system of claim 86, further comprising a second fogger, wherein said at least one fogger is located upstream of said fan, and said second fogger is located between said fan and said compressor.

90. (Previously presented) The supercharged, power-producing gas turbine system of claim 86, further comprising a system controller, wherein said system controller monitors at least one system parameter and controls operation of said at least one fogger such that as ambient temperature decreases, turbine power output, which otherwise would increase with decreasing ambient temperature, does not exceed maximum supercharged summer-peaking power output.

Serial No. 10/009,195
December 9, 2005
Page 5

91. (Previously presented) The supercharged, power-producing gas turbine system of claim 86, wherein said at least one supercharging fan comprises an axial fan.

92. (Previously presented) The supercharged, power-producing gas turbine system of claim 91, wherein said axial fan comprises variable pitch blades.

93. (Previously presented) The supercharged, power-producing gas turbine system of claim 86, wherein said supercharging subsystem further comprises inlet vanes to control supercharging,

94. (Previously presented) The supercharged, power-producing gas turbine system of claim 86, wherein said supercharging subsystem further comprises variable speed drives to control supercharging.

95. (Currently amended) A supercharged, power-producing gas turbine system, said system comprising:

a gas turbine subsystem and an electrical generator, said gas turbine subsystem comprising a compressor, a burner, and a gas turbine, wherein a gas turbine subsystem input airstream is compressed by said compressor, heated by said burner, and expanded through said turbine to cause said turbine to rotate, whereby said turbine drives said generator to generate electrical power; and

a variable supercharging subsystem comprising at least one supercharging fan which can variably increase and vary the pressure of said gas turbine subsystem input airstream above atmospheric pressure over an operating temperature range of said gas turbine system.

Serial No. 10/009,195
December 9, 2005
Page 6

96. (Previously presented) The supercharged, power-producing gas turbine system of claim 95, wherein said supercharging fan comprises a variable pitch axial fan.

97. (Previously presented) The supercharged, power-producing gas turbine system of claim 95, wherein said supercharging subsystem further comprises a variable speed drive.

98. (Previously presented) The supercharged, power-producing gas turbine system of claim 95, further comprising means for varying the speed or flow of said at least one supercharging fan.